

# UTAH GEOLOGICAL SURVEY

## INVESTIGATE

energy and mineral resources



IDENTIFY  
geologic hazards



## MAP

the state's geology



## EVALUATE

Utah's ground-water resources



## MONITOR

the state's paleontological sites



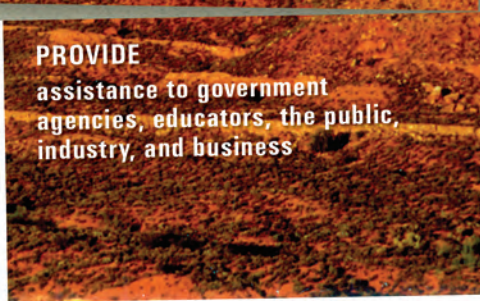
## SUPPLY

energy efficiency and  
renewable energy information

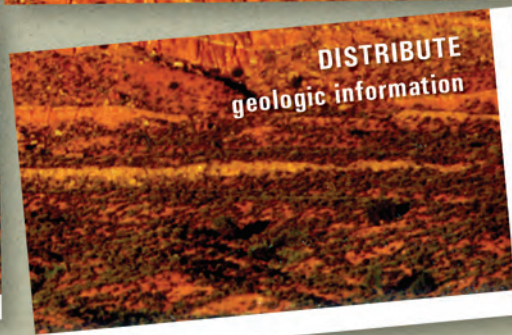


## PROVIDE

assistance to government  
agencies, educators, the public,  
industry, and business



DISTRIBUTE  
geologic information



Department of Natural Resources



# State Energy Program

Provides energy information, program support and access to federal funding for energy efficiency, energy conservation and renewable energy initiatives in Utah. Areas include:

- energy efficiency
- renewable energy
  - wind
  - geothermal
  - solar
  - biomass
- transportation
- carpool and vanpool
- energy and mineral data

Provides educational materials to help Utahns make informed energy decisions; includes information on energy-efficient home construction, commercial and residential energy codes, insulation techniques, renewable energy tax credits and resources, recycling and market development, energy-efficient appliances, new lighting technologies, and home energy auditing.



*SEP staff gather information regarding wind energy in Utah.*

## Energy and Minerals Program

Identifies, characterizes, and quantifies Utah's energy and mineral resources. Resources include:

- industrial, base, and precious metals
- uranium and vanadium
- geothermal
- coal and coalbed gas
- tar sands and oil shale
- oil and gas

Manages the Utah Core Research Center; maintains computerized databases and other files on Utah's past and present resource development activities to respond to requests for information about the state's energy and mineral resources from individuals, governmental agencies, and industry.



*Core drilling operations by the UGS for a DOE-funded reservoir modeling study of the Ferron Sandstone.*



# Geologic Information and Outreach Program

Answers questions and provides information on Utah's geology to the public, educators, industry, and decision makers. Produces non-technical, geologic-overview, and educational publications on a variety of topics, including:

- geologic guides to various areas of the state (selected roads, state parks, travel regions, and points of interest)
- geologic hazards
- geologic resources
- science curriculum topics

Operates the Natural Resources Map & Bookstore and the Department of Natural Resources Library, both of which are Earth Science Information Centers (affiliates to the U.S. Geological Survey). Oversees the public-access computer databases. Maintains the UGS and Map & Bookstore web sites. Provides education/geologic resources, field trips, and workshops to teachers.



*The Natural Resources Map & Bookstore carries numerous publications and a complete line of Utah topographic maps.*

## Geologic Mapping Program

Maps the geology of the state at 1:100,000 and 1:24,000 scales and produces both print and digital (Geographic Information System) maps that describe:

- stratigraphy
- structure
- bedrock and Quaternary (surficial) geology
- geologic hazards
- economic geology
- ground-water resources
- scenic geologic resources

Provides geologic maps to geologists, government officials, industry representatives, and the public to promote better understanding of Utah's geology, delineate the resource potential of property, and assess geologic hazards.



*A geologist records geologic information while mapping in southern Utah.*



# Geologic Hazards Program

Responds to requests from government agencies for geologic hazards investigations and report reviews, helps protect Utah's public health and safety by investigating and mapping hazards such as:

- earthquakes
- landslides and debris flows
- subsidence
- problem soils
- flooding
- shallow ground water
- radon

Responds to geologic hazards emergencies; compiles small- and large-scale geologic hazard maps; provides the public, state agencies, school districts, and local governments with information and technical services.



*Geologists show local government officials evidence of past earthquakes uncovered in a trench along the Oquirrh fault.*

# Ground Water and Paleontology Program

Provides state government and the public with detailed studies on paleontological, and ground-water resources. Projects include:

- water-well siting
- water-well cuttings analysis
- ground-water contamination evaluations
- geological framework of aquifers and hydrologic basins
- geophysical logging of water wells
- wetlands evaluations
- paleontological locality database
- fossil recovery and analysis

Issues permits for fossil excavations and directs a paleontological training program for amateurs through Utah Friends of Paleontology.



*Utah's rich fossil history beckons amateur and professional paleontologists alike.*



## SERVICES

### • PUBLIC INQUIRY

Answer questions on Utah geology, energy efficiency and renewable energy projects by responding to walk-in visitors, letters, telephone calls, and e-mails.

### • UGS WEBSITE

Online publications and maps; geologic and energy information; information on the programs and activities of the UGS.

### • DIGITAL DATA

Provide public-access data on a variety of topics including GIS data files, industrial minerals, geologic hazards, core, energy and mineral resources, geothermal wells and springs, coal quality, oil and gas wells and fields, geophysical well logs, national uranium resource data, geographic and geologic names, and bibliographies (currently: geologic maps and geologic hazards).

### • UTAH CORE RESEARCH CENTER

Provide facilities to archive and examine borehole cuttings, core, type oils, coals, and selected surface rock samples from Utah; conduct workshops, tours, loans of geologic samples, and core slabbing and photographing. Open Mon-Fri, 8 a.m. to 5 p.m.

### • DNR LIBRARY

Maintain numerous reference materials on Utah's natural resources, including geophysical logs from Utah oil and gas wells. Catalog on-line at [dnrlibrary.utah.gov](http://dnrlibrary.utah.gov). Available to the public for research, Mon-Fri, 7:30 a.m. to 4:30 p.m.

### • NATURAL RESOURCES MAP & BOOKSTORE

Provide large selection of publications and maps on Utah geology from the UGS, U.S. Geological Survey, Utah Geological Association; publications and recreational maps from other divisions of the Department of Natural Resources; complete inventory of USGS topographic maps of Utah. Discounts for retailers. Open Mon-Fri, 7:30 a.m. to 5:00 p.m.

### • GEOLOGIC HAZARDS ASSISTANCE

Provide state and local governments with advice in geologic hazards emergencies, prepare hazards maps, and review consultants' geologic hazards reports to local governments and school districts.

### • SURVEY NOTES

Official UGS newsletter: informative, non-technical magazine on noteworthy and interesting geologic topics in Utah; published three times a year.

### • WATER RESOURCE/ENVIRONMENTAL EVALUATIONS

Identify water resources; protect drinking-water supplies; investigate environmental impacts of waste disposal, storage, and treatment facilities for local governments and state agencies; evaluate the quantity and quality of Utah's ground-water resources.

### • PALEONTOLOGICAL SERVICES

Interpret and protect paleontological sites, issue permits for fossil excavations.

### • INDUSTRY OUTREACH

Maintain contact and exchange information with mining and petroleum operators, promote exploration and development opportunities, and respond to technical industry inquiries.

### • ENERGY AND MINERAL RESOURCE EVALUATIONS

Investigate the energy and mineral resources of counties, sovereign land tracts, and school trust lands for county governments and state agencies.

### • INDUSTRY COOPERATIVES

Oversee joint cooperative research with industry; projects include developing geological and petrophysical characterizations of oil and gas reservoirs, increasing coalbed and oil production, and reactivating idle oil leases in Utah.

### • TEACHER WORKSHOPS/FIELD TRIPS

Offer instruction, designed especially for teachers, on different aspects of Utah geology.

### • ROCK/DINOSAUR/EARTHQUAKE/ICE AGE TEACHING KITS

Provide four kits: rocks, minerals, and fossils; dinosaurs; earthquakes, and Ice Age; available for free checkout with refundable deposit.

### • ANEMOMETER LOANS

Loan anemometers to qualified borrowers and offer technical support on siting, installing, and operating anemometers as well as provide analysis of the collected wind speed data.



The Utah Geological Survey is an applied scientific agency that creates, interprets, and provides information about Utah's geologic environment, resources, and hazards to promote safe, beneficial, and wise use of land.



**Salt Lake City Office**

If you have any questions or need additional information, contact us by phone, fax, letter, or Internet:

**UTAH GEOLOGICAL SURVEY**

Richard G. Allis, Director  
1594 West North Temple  
PO Box 146100  
Salt Lake City, UT 84114-6100  
Division phone: (801) 537-3300  
Division fax: (801) 537-3400  
[geology.utah.gov](http://geology.utah.gov)

**NATURAL RESOURCES MAP & BOOKSTORE**

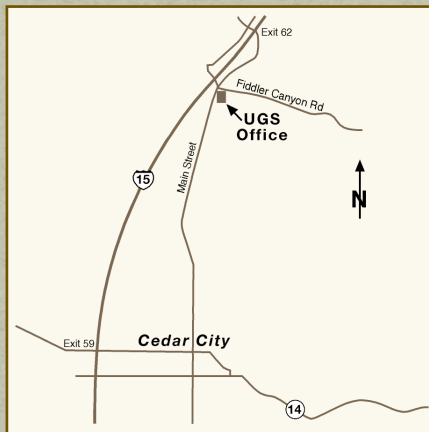
Phone: (801) 537-3320  
Toll free: (888) UTAH MAP  
Fax: (801) 537-3395  
[mapstore.utah.gov](http://mapstore.utah.gov)

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**Utah Geological Survey**

*a division of*

**Department of Natural Resources**



**Cedar City Office**

**UTAH CORE RESEARCH CENTER**

240 North Redwood Road  
Salt Lake City, UT 84114  
Phone: (801) 537-3359  
Fax: (801) 537-3359  
[geology.utah.gov/emp/corecenter](http://geology.utah.gov/emp/corecenter)

**UGS SOUTHERN UTAH REGIONAL OFFICE**

88 E Fiddler Canyon Rd., Ste. C  
Cedar City, UT 84720  
Phone: (435) 865-9034 or 9036  
Fax: (435) 865-9037  
[geology.utah.gov/ugssuro.htm](http://geology.utah.gov/ugssuro.htm)

*Cover photo: View east to Hurricane Mesa and  
Zion National Park, by Bob Biek.*

*Back cover photo: Cedar Breaks National Monument,  
courtesy of Utah Travel Council*